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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,922

10/21/2003

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EXAMINER

TRAN, NHAN T

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

01/09/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/688,922	<b>Applicant(s)</b> EZAWA ET AL.	
	<b>Examiner</b> Nhan T. Tran	<b>Art Unit</b> 2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 16 October 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 15-22 have been considered but are moot in view of the new ground of rejection.

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 10/16/2007 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Specification***

3. A new title of invention filed 10/16/2007 is accepted.

### ***Claim Objections***

4. Claim 15 is objected to because of the following informalities:

In line 9 of claim 15, the period (.) after "the shutter unit" should be replaced by a comma (,). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15, 16, 18, 19, 21 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurahashi Sunao (JP 06-308576, submitted in the IDS filed 10/16/2007).

Regarding claim 15, Sunao discloses an electronic camera (a video still camera shown in Figs. 5-8 and paragraphs [0009] and [0014]) comprising:

an image pick-up unit (combination of holder 19 and image sensor 30) disposed on an optical path of light that enters the electronic camera, the image pick-up unit including a photoelectric converter (image sensor 30) that receives the light (see Fig. 8 and paragraph [0021]); and

a shutter unit (2 in Fig. 8) disposed on the optical path between the photoelectric converter (30) and a portion (optical system) of the camera through which the light enters the camera, the shutter unit housing a shutter curtain (curtain 2a as shown in Figs. 1, 3 & 8 and paragraph [0013]);

a portion of the image pick-up unit that opposes the shutter unit protruding into a portion of the shutter unit (see Fig. 8 in which the front portion of the image pick-up unit 19 protrudes into the a portion of the shutter unit 2),

wherein the shutter unit (2) includes a lens-side frame located on one side of the shutter curtain that faces away from the image pick-up unit (Fig. 8 shows a front frame of the shutter unit 2 located at the side of lens system and faces away from the image pick-up unit 19), the lens-side frame has a first opening part (a front opening of the

shutter unit on the lens side) to transmit the light to the shutter curtain (2a), and an image pick-up unit-side frame on other side of the shutter unit that opposes the image pick-up unit (Fig. 8 shows a rear frame at element 41 of the shutter unit 2 located at the image pick-up unit 19), the image pick-up unit-side frame has a second opening part (a rear opening part defined by the window 41 in Figs. 8 & 2) to transmit the light to the photoelectric converter (30), wherein the shutter curtain (2a) is disposed between the lens-side frame and the image pick-up unit-side frame (see Figs. 2 & 8 in which the shutter curtain is located within the shutter unit space 2 in view of Fig. 8), the portion of the image pick-up unit (front portion of 19) that opposes the shutter unit is located between the shutter curtain (2a) and the photoelectric converter (30), and protruding into the second opening part of the image pick-up unit-side frame (see Fig. 8, note that the shutter curtain is shown as a thick black portion within the shutter unit 2).

Regarding claim 16, Sunao also discloses that the image pick-up unit (19, 30) that opposes the shutter unit (2) has a filter (filter group 18 including an optical low pass filter and an IR cut-off filter held by the holder 19 shown in Fig. 5), the filter located between the shutter curtain and the photoelectric converter, and the filter protrudes into the second opening part of the image pick-up unit-side frame (see Figs. 5 & 8 and paragraph [0015]).

Regarding claim 18, as seen from Figs. 1-4 of Sunao, the shutter curtain (2a) has a plurality of shutter blades that move at approximately a right angle (up and down

movement) to the optical path of the light, and the shutter unit (2) is disposed at an angle (a right angle) in a main camera body of the electronic camera so that, when the shutter blades are in a closed state (see Fig. 3), a distance between each of the respective shutter blades and the image pick-up unit is *substantially* equal (note that since the shutter blades are closely stacked together, the distance from each blade to the image sensor 30 is substantially equal).

Regarding claim 19, Sunao shows in Fig. 8 that the first opening part (the front opening part of the shutter unit 2) is formed smaller than a cross-section of the portion of the image pick-up unit (the cross section includes section of the holder 19) that opposes the shutter unit, and the shutter curtain has a size corresponding to the first opening part (Figs. 1 & 3).

Regarding claim 21, also disclosed by Sunao is that the portion of the image pick-up unit (19, 30) that opposes the shutter unit is in contact with the shutter unit (2) (see Fig. 8).

Regarding claim 22, Sunao further discloses a resilient member (spring 31 in Fig. 8) that presses the image pick-up unit into contact with the shutter unit (see paragraph [0021]).

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurahashi Sunao (JP 06-308576) in view of Haraguchi Shosuke (JP 07098481, submitted in the IDS filed 10/21/2003 and now re-cited in PTO-892 with English translation).

Regarding claim 17, although Sunao discloses that the shutter blades move at approximately at a right angle to the optical path of the light and the blades are stacked together as shown in Figs. 1, 3 & 8, it is not clear in Sunao that a shutter blade that moves by a largest amount is disposed farther from the photoelectric converter than other ones of the shutter blades.

However, such arrangement of shutter blades are well practiced by one skilled in the art and is taught by Shosuke in Fig. 6 and paragraphs [0029]-[0031], wherein the shutter blade (13a) that extends downward from an upper portion of a shutter unit moves by a largest amount of that group of blades and disposed farther from the image focal plane of a sensor (102). Such configuration would be advantageous in that interference among shutter blades and also between the shutter blades and focal plane surface of the sensor would be avoided.

Therefore, it would have been obvious to one of ordinary skill in the art to configure the shutter unit in Sunao in view of Shosuke such that the shutter blade that moves by a largest amount is disposed farther from the photoelectric converter than other ones of the shutter blades so as to avoid interference among the shutter blades as well as between the shutter blades and focal plane surface of the image pick-up unit.

9. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurahashi Sunao (JP 06-308576) in view of Ishiguro (US 5,483,284).

Regarding claim 20, Sunao does not explicitly disclose that the second opening part is formed larger than the first opening part and larger than the cross-section of the portion of the image pick-up unit that opposes the shutter unit.

However, as taught by Ishiguro in Fig. 1, a rear opening (1A) of shutter unit (21) is larger *slightly* larger than a front opening (the opening that is defined by the window of low pass filter 22) and larger than a cross section of the image sensor (8). It would be advantageous in that a large rear opening of the shutter unit would ensure sufficient incident light to reach to the image sensor and also reduce material for constructing the frame structure.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the electronic camera in Sunao such that the second opening part is formed larger than the first opening part and larger than the cross-section of the portion of the image pick-



up unit that opposes the shutter unit for ensuring sufficient incident light to reach to the image sensor and also for reducing material for constructing the frame structure.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

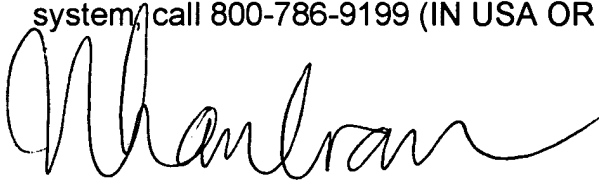
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhan T. Tran whose telephone number is (571) 272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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A handwritten signature in black ink, appearing to read 'Nhan Tran', with a stylized, flowing script.

NHAN T. TRAN  
Patent Examiner